AMENDMENTS TO THE SPECIFICATION

In the Specification:

Please replace the paragraph at page 3, line 26 with the following amended paragraph:

Patent Document 1: Japanese Patent Application Laid-Open No. 2003-213485

Patent Document 2: Japanese Patent Application Laid-Open No. 1999-315175

~~Patent Document 3: Japanese Patent Application Laid-Open No. 1999-315175~~

Patent Document [[4]] 3: Japanese Patent Application Laid-Open No. 1995-233354

Non-Patent Document 1: Handbook of Pressure Sensitive Adhesive Technology first published by The Nikkan Kensetsu Kogyo Shimbun on March 31, 1997

Non-Patent Document 2: Hitachi Chemical Technical Report, Vol. 32, pp. 7-14 (2002)

Please replace the paragraph at page 22, line 17 with the following amended paragraph:

On the other hand, when the total ion content is not less than 1 ppm, for example, an adherend which is very sensitive to ions such as a semiconductor device, an organic EL device or the like may easily be affected by ions and defects may be caused. The ions are extracted from the adhesive film 10 in pure water. Concrete examples thereof include a cation such as sodium ion (Na^+), potassium ion (K^+) and the like; an anion such as chloride ion (~~Cl-~~ Cl^-), fluoride ion (~~F-~~ F^-), nitrate ion (~~NO3-~~ NO_3^-), nitrite ion (NO_2^-), phosphate ion (PO_4^{3-}), sulfate ion (SO_4^{2-}) and the like; and a metal ion such as ferric ion (Fe^{2+}), copper ion (Cu^{2+}), chrome ion (Cr^{3+}), aluminum ion (Al^{3+}), zinc ion (Zn^{2+}), nickel ion (Ni^{2+}) and the like.

Please replace the paragraph at page 32, line 22 with the following amended paragraph:

(Evaluation of Chemical Resistance)

Chemical resistance of an adhesive film was tested in conformity with a method described in "Plastics - Methods of test for the determination of the effects of immersion in liquid chemicals", JIS K7114-2001. The measure, weight and appearance of a sample piece (60 square-mm) were measured 7 days after the sample piece was immersed in liquid chemicals of 2 normal hydrochloric acid (23°C and 70°), 2 normal sulfuric acid (23°C and 70°), an aqueous 20 weight % sodium hydroxide solution (20 wt% NaOHaq) (23°C and 70°), a 10 weight % ammonia solution (10 wt% ~~NH3aq~~ NH_3aq) (23°C), isopropanol (23°C), acetone (23°C) and ethyl acetate (23°C). By comparing the resulting measure, weight and appearance of the sample with those before immersion, chemical resistance was evaluated according to the following criteria.

Please replace the paragraph at page 34, line 22 with the following amended paragraph:

In Table [[2]] 3, test results of ion chromatography, adhesion, adhesive stability under heat and pressure, and chemical resistance for the adhesive film 10 are illustrated. The adhesive film 10 was attached to a surface of a PET substrate (0.8 mm (thickness) x 300 mm x 300 mm), which is processed in the shape of a lens having an uneven surface, while it was heated at about 60°C, cut in a size of 100 mm x 100 mm using a rotating blade, kept in a heating bath at 60°C for 1 week, and then allowed to stand at 23°C and 50% RH for 1 day. A PET substrate was obtained, in which the adhesive film was easily peeled away when peeled manually, a cut surface was favorable, no adhesive residue was found on the surface processed into a lens shape, and optical functions were well maintained. Therefore, the adhesive film 10 of this Example can be used for the application in which four kinds of surface protection uses such as lens functions, heating treatment uses, cutting processing uses and transport storage uses are combined, in a

process for producing and assembling lens substrates to be used in the fields of optical/display materials.

Please replace the paragraph at page 36, line 13 with the following amended paragraph:

In Table [[2]] 3, test results of ion chromatography, adhesion, adhesive stability under heating and pressure, and chemical resistance for the adhesive film 10 are illustrated.

Please replace the paragraph at page 37, line 17 with the following amended paragraph:

Fig. [[8]] 9 illustrates a chart showing the measurement of the DSC test of iPEBR/iPP = 90/10 (wt/wt) that was an adhesive material constituting the adhesive material layer 2. The melting temperature Tm was 159.9°C and the heat of fusion ΔH was 12.3 J/g.

Please replace the paragraph at page 37, line 21 with the following amended paragraph:

Then, materials of each layer were melted with an extruder equipped with a full-flighted screw. Molding conditions (melting temperature) were 230°C for the adhesive material layer 2, 230°C for the intermediate layer 3 and 220°C for the outer layer 4, and molten resins of these three layers were laminated in a multi-layer die (co-extrusion temperature: 230°C). The extruded adhesive film was cooled and a peeling ~~sheet~~ film 5 of Tohcello Separator™ SP T18 (PET-SP, thickness: 31 μm), manufactured by Tohcello Co., Ltd. was applied on the surface of the adhesive material layer, then slit and wound around the core material 6.

Please replace the paragraph at page 38, line 10 with the following amended paragraph:

In Table [[2]] 3, test results of ion chromatography, adhesion, adhesive stability under heat and pressure, and chemical resistance for the adhesive film 10 are illustrated.

Please replace the paragraph at page 39, line 16 with the following amended paragraph:

Then, materials of each layer were melted with an extruder equipped with a full-flighted screw. Molding conditions (melting temperature) were 230°C for the adhesive material layer 2, 230°C for the intermediate layer 3 and 220°C for the outer layer 4, and molten resins of these three layers were laminated in a multi-layer die (co-extrusion temperature: 230°C). The extruded adhesive film was cooled, a peeling ~~sheet~~ film 5 of PET-SP (thickness: 31 μm), which was the same as the one used in Example 3, was applied on the surface of the adhesive material layer, then slit and wound around the core material 6.

Please replace the paragraph at page 40, line 4 with the following amended paragraph:

In Table [[2]] 3, test results of ion chromatography, adhesion, adhesive stability under heating and pressure, and chemical resistance for the adhesive film 10 are illustrated. The adhesive film 10 was attached to a surface of a glass plate (300 mm x 300 mm, 1 mm (thickness)) at room temperature, treated with a chemical solution of $HF/HNO_3/CH_3COOH$ = 1/9/3 (hydrofluoric acid/nitric acid/acetic acid) for 30 minutes, and then washed and allowed to stand at 23°C and 50% RH for 7 days. When the adhesive film 10 was manually peeled away, as a result, the adhesive film was easily peeled away, a boundary between a glass surface protected with the adhesive film 10 and a glass surface which was not protected was seen clear, and no adhesive residue was found. That is, the adhesive film 10 of this Example can be used for the applications in

which three kinds of surface protection uses, treatment uses with a chemical solution and transport storage uses are combined, in a process for producing wafers to be used in the semiconductor fields.

Please replace the paragraph at page 41, line 16 with the following amended paragraph:

In Table [[1]] 2, the layer structure of the adhesive film 10, components constituting each layer and the weight ratio thereof, thickness of each layer, and various test results of the adhesive material layer 2 are illustrated.

Please replace the paragraph at page 41, line 19 with the following amended paragraph:

In Table [[2]] 4, test results of ion chromatography, adhesion, adhesive stability under heat and pressure, and chemical resistance for the adhesive film 10 are illustrated. In particular, in the adhesive stability test under heat and pressure, an adherend surface was not contaminated, whereas 1.8 (N/25 mm) of initial adhesion was increased to 5.5 (N/25 mm), an increase of about 3 times.

Please replace the paragraph at page 43, line 10 with the following amended paragraph:

In Table [[1]] 2, the layer structure of the adhesive film 10, components constituting each layer and the weight ratio thereof, thickness of each layer, and various test results of the adhesive material layer 2 are illustrated.

Please replace the paragraph at page 43, line 13 with the following amended paragraph:

In Table [[2]] 4, test results of ion chromatography, adhesion, adhesive stability under heat and pressure, and chemical resistance for the adhesive film 10 are illustrated. In particular, in the adhesive stability test under heat and pressure, an adherend surface was not contaminated, whereas 1.7 (N/25 mm) of initial adhesion was increased to 3.3 (N/25 mm), an increase of about 2 times.

Please replace the paragraph at page 45, line 1 with the following amended paragraph:

In Table [[1]] 2, the layer structure of the adhesive film 10, components constituting each layer and the weight ratio thereof, thickness of each layer, and various test results of the adhesive material layer 2 are illustrated.

Please replace the paragraph at page 45, line 4 with the following amended paragraph:

In Table [[2]] 4, test results of ion chromatography, adhesion, adhesive stability under heat and pressure, and chemical resistance for the adhesive film 10 are illustrated. In particular, in the adhesive stability test under heat and pressure, an adherend surface was not contaminated, whereas 5.3 (N/25 mm) of initial adhesion was increased to 8.5 (N/25 mm), an increase of about 1.6 times.

Please replace the paragraph at page 46, line 17 with the following amended paragraph:

In Table [[1]] 2, the layer structure of the adhesive film 10, components constituting each layer and the weight ratio thereof, thickness of each layer, and various test results of the adhesive material layer 2 are illustrated.

Please replace the paragraph at page 46, line 20 with the following amended paragraph:

In Table [[2]] 4, test results of ion chromatography, adhesion, adhesive stability under heat and pressure, and chemical resistance for the adhesive film 10 are illustrated.

Please replace Table 2 at page 49 with the following amended Table 2:

[Table 2]

		Comparative Example 1	Comparative Example 2	Comparative Example 3	Comparative Example 4
Base material layer 1 Component: Weight ratio (thickness)	Outer layer 4 Component : Weight ratio (thickness)	HDPE 80 LDPE 20 (8 μm)	HDPE 80 LDPE 20 (8 μm)	HDPE 80 LDPE 20 (8 μm)	HDPE 80 LDPE 20 (8 μm)
	Intermediate layer 3 Component : Weight ratio (thickness)	rPP 88 EB-A 10 HDPE 2 (34 μm)	rPP 88 EB-A 10 HDPE 2 (34 μm)	rPP 88 EB-A 10 HDPE 2 (60 μm)	~~RPP~~ rPP 88 EB-A 10 HDPE 2 (60 μm)
Adhesive layer 2 (thickness)	Component : Weight ratio	~~SPER~~ sPER 100 (8 μm)	sPER 90 4MP 10 (8 μm)	iPEBR 90 rPP 10 (12 μm)	PB (4MP) 100 (12 μm)
DSC	Melting temperature Tm (°C)	-	221.7	135.2	64
	Heat of fusion ΔH (J/g)	-	3.6	0.8	0.3
Storage elastic modulus G' (Mpa)	20°C 50°C 80°C	5.5 3.0 0.1	8.4 4.2 3.5	9.2 2.0 0.6	10.2 2.5 0.6
Loss coefficient tan δ (-)	20°C 50°C 80°C	0.08 0.15 0.40	0.08 0.14 0.18	0.16 0.21 0.47	1.0 0.6 0.3
Loss coefficient tan δ	Peak temperature (°C)	-16	-16	-14	+12

Please replace Table 3 at page 50 with the following amended Table 3:

[Table 3]

		Example 1	Example 2	Example 3	Example 4
Ion chromatography (ppm)	Na^+	< 0.01	< 0.01	< 0.01	< 0.01
	K^+	< 0.01	< 0.01	< 0.01	< 0.01
	Cl^-	0.04	0.04	0.04	0.05
	F^-	< 0.01	< 0.01	< 0.01	< 0.01
	NO_3^-	< 0.01	< 0.01	< 0.01	< 0.01
	NO_2^-	< 0.01	< 0.01	< 0.01	< 0.01
	PO_4^{3-}	< 0.01	< 0.01	< 0.01	< 0.01
	SO_4^{2-}	< 0.01	< 0.01	< 0.01	< 0.01
	Fe^{2+}	< 0.01	< 0.01	< 0.01	< 0.01
	Cu^{2+}	< 0.01	< 0.01	< 0.01	< 0.01
	Cr^{3+}	< 0.01	< 0.01	< 0.01	< 0.01
	Al^{3+}	< 0.01	< 0.01	< 0.01	< 0.01
	Zn^{2+}	0.04	0.04	0.05	0.05
	Ni^{2+}	< 0.01	< 0.01	< 0.01	< 0.01
Adhesion (N/25 mm)		1.0	2.2	4.0	5.2
Adhesive stability under heat and pressure		O	O	O	O
Chemical resistance	2N hydrochloric acid (23°C)	O	O	O	O
	2N hydrochloric acid (70°C)	O	O	O	O
	2N sulfuric acid (23°C)	O	O	O	O
	2N sulfuric acid (70°C)	O	O	O	O
	20 wt% NaOHaq (23°C)	O	O	O	O
	20 wt% NaOHaq (70°C)	O	O	O	O
	10 wt% ~~NH3aq~~ $\underline{NH_3aq}$ (23°C)	O	O	O	O
	Isopropanol (23°C)	O	O	O	O
	Acetone (23°C)	O	O	O	O

	Ethyl acetate (23°C)	O	O	O	O

Please replace the paragraph at page 50, line 43 with the following amended paragraph:

From Table 3, it was found that the adhesive film in Examples exhibited excellent adhesion and no increase in adhesion under ~~heating~~ heat and ~~warming~~ pressure, maintained an easy peeling property even after a certain period of time passed, and left no contaminant on an adherend surface. Further, chemical resistance under warming against an acid or an alkali, or even against organic solvents was found to be excellent.

Please replace Table 4 at page 51 with the following amended Table 4:

[Table 4]

		Comparative Example 1	Comparative Example 2	Comparative Example 3	Comparative Example 4
Ion chromatography (ppm)	Na^+	< 0.01	< 0.01	< 0.01	< 0.01
	K^+	< 0.01	< 0.01	< 0.01	< 0.01
	Cl^-	0.04	0.04	0.04	0.05
	F^-	< 0.01	< 0.01	< 0.01	< 0.01
	NO_3^-	< 0.01	< 0.01	< 0.01	< 0.01
	NO_2^-	< 0.01	< 0.01	< 0.01	< 0.01
	PO_4^{3-}	< 0.01	< 0.01	< 0.01	< 0.01
	SO_4^{2-}	< 0.01	< 0.01	< 0.01	< 0.01
	Fe^{2+}	< 0.01	< 0.01	< 0.01	< 0.01
	Cu^{2+}	< 0.01	< 0.01	< 0.01	< 0.01
	Cr^{3+}	< 0.01	< 0.01	< 0.01	< 0.01
	Al^{3+}	< 0.01	< 0.01	< 0.01	< 0.01
	Zn^{2+}	0.04	0.04	0.04	0.05
	Ni^{2+}	< 0.01	< 0.01	< 0.01	< 0.01
Adhesion (N/25 mm)		1.8	1.7	5.3	2.1
Adhesive stability under heat and pressure		X	X	X	O

Chemical resistance	2N hydrochloric acid (23°C)	O	O	O	O
	2N hydrochloric acid (70°C)	O	O	O	O
	2N sulfuric acid (23°C)	O	O	O	O
	2N sulfuric acid (70°C)	O	O	O	O
	20 wt% NaOHaq (23°C)	O	O	O	O
	20 wt% NaOHaq (70°C)	O	O	O	O
	10 wt% ~~NH3aq~~ NH_3aq (23°C)	O	O	O	O
	Isopropanol (23°C)	O	O	O	O
	Acetone (23°C)	O	O	O	O
	Ethyl acetate (23°C)	O	O	O	O